

a first hinge cam having guide protuberances formed on side surface thereof and corresponding to the guide grooves of the module housing, so that the first hinge cam linearly moves in the module housing, the first hinge cam having a valley-shaped portion formed at one end thereof;

a first hinge shaft including a mountain-shaped portion formed at one end thereof, which corresponds to the valley-shaped portion of the first hinge cam, and a shaft portion formed at the other end thereof and protruding out of the module housing through the first hinge shaft hole of the module housing; and

an elastic means disposed and supported between the other end of the module housing and the other end of the first hinge cam, thereby applying elastic force to the first hinge cam in a direction of forcing the first hinge cam and the first hinge shaft to be in tighter contact with each other, wherein

the shaft portion of the first hinge shaft is fixed to the terminal body, so that the first hinge shaft is rotated with respect to the folder when the folder is opened or closed.

25. A rotary-type hinge system of a portable wireless terminal as claimed in claim 22, wherein the rotary-type hinge module comprises:

a hinge housing assembled with the terminal body in such a manner that the hinge housing can be rotated about the first rotation axis provided by the folder-opening hinge module;

a supporting shaft fixed to and extending outward from a portion of an inner surface of the hinge housing in a direction opposed to said portion;

a hinge cam having a valley-shaped portion formed in a diametric direction at one side thereof, the hinge cam having a hinge cam hole formed therethrough, by which the second hinge cam is fixedly assembled with the supporting shaft;

a hinge shaft having a mountain-shaped portion formed in a diametric direction at one side thereof and corresponding to the valley-shaped portion of the hinge cam, the hinge shaft having a hinge shaft hole formed therethrough, by which the second hinge shaft is rotatably assembled with the supporting shaft;

an elastic means assembled with the supporting shaft and supporting the hinge shaft, thereby providing elastic force in a direction which forces the mountain-shaped portion of the hinge shaft and the valley-shaped portion of the hinge cam to be in tighter contact with each other; and

a rotary shaft having a shape of a cylinder which has an open end and a closed end opposite to each other, the rotary shaft containing the hinge cam, the hinge shaft, and the elastic means, which are assembled with the supporting shaft, the elastic means being supported by the closed end of the rotary shaft, the rotary shaft being assembled with the supporting shaft in such a manner that the rotary shaft can be rotated together with the hinge shaft, so as to forming the second rotation axis, thereby rotating the folder.

26. A rotary-type hinge system of a portable wireless terminal as claimed in claim 25, wherein the hinge housing further has a receiving hole for receiving the folder-opening hinge module formed at one end thereof.

27. A rotary-type hinge system of a portable wireless terminal as claimed in claim 25, wherein:

the rotary shaft provides an assembling means with which the folder is assembled, the assembling means comprising assembling wings extending laterally outward from opposite side surfaces of the closed end of the rotary shaft, and ribs extending in a longitudinal direction along the rotary shaft from end portions of the assembling wings, the assembling wings extending a length larger than that of the hinge housing, each of the ribs having an assembling hole; and

the folder further comprises a frame received therein, which has assembling holes corresponding to the assembling holes of the ribs, which enable the frame to be fixed to the rotary shaft.

28. A rotary-type hinge module of a portable wireless terminal as claimed in claim 27, wherein the assembling means further comprises a stopper protruding from a surface of the assembling wings, and the hinge housing having a sliding groove corresponding to a rotation trace of the stopper and formed on an outer surface thereof, so that the stopper is guided along the sliding groove, thereby enabling a range within which the stopper can be rotated to be limited to 180°.

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